Environmental Profile

This LCA is calculated according to: ISO 14044, ISO 14040 and EN 15804

Ecochain v3.5.64

Product:	3067742 - SiTech+ Bend STB 87,5° 75
Unit:	1 piece
Manufacturer:	Wavin - IT - SM Maddalena

Wavin SiTech+ is a waste water system made of mineral- reinforced polypropylene (PP), which offers increased durability, but more importantly is quiet and easy to install.

LCA standard:	EN15804+A2 (2019)
Standard database:	Worldwide - Ecoinvent v 3.6 Cut-Off
Externally verified:	Yes
Issue date:	24-11-2022
End of validity:	24-11-2027
Verifier:	Martijn van Hövell - SGS Search

This LCA was evaluated according to EN15804+A2. It was concluded that the LCA complies with this standard.

The LCA background information and project dossier have been registered in the online Ecochain application in the account Wavin - IT - SM Maddalena (2020). (☑ = module declared, MND = module not declared).

A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
☑	☑	☑	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	☑	☑	☑	☑

Product stage

A1 Raw material supply A2 Transport A3 Manufacturing

Construction process stage

A4 Transport gate to site
A5 Assembly / Construction installation process

Use stage

B1 Use B2 Maintenance B3 Repair B4 Replacement B5 Refurbishment
B6 Operational energy use B7 Operational water use

End-of-Life stage

C1 De-construction demolition C2 Transport C3 Waste processing
C4 Disposal

Benefits and loads beyond the system boundaries

D Reuse- Recovery- Recycling- potential

Environmental impacts and parameters

GWP-total = EF Climate Change [kg CO2 eq]; **GWP-f** = EF Climate change - Fossil [kg CO2 eq]; **GWP-b** = EF Climate Change - Biogenic [kg CO2 eq]; **GWP-luluc** = EF Climate Change - Land use and LU change [kg CO2 eq]; **ODP** = EF Ozone depletion [kg CFC11 eq]; **AP** = EF Acidification [mol H+ eq]; **EP-fw** = EF Eutrophication, freshwater [kg P eq]; **EP-m** = EF Eutrophication, marine [kg N eq]; **EP-T** = EF Eutrophication, terrestrial [mol N eq]; **POCP** = EF Photochemical ozone formation [kg NMVOC eq]; **ADP-mm** = EF Resource use, minerals and metals [kg Sb eq]; **ADP-f** = EF Resource use, fossils [MJ]; **WDP** = EF Water use [m3 depriv.]; **PM** = EF Particulate matter [disease inc.]; **IR** = EF Ionising radiation [kBq U-235 eq]; **ETP-fw** = EF Ecotoxicity, freshwater [CTUe]; **HTP-c** = EF Human toxicity, cancer [CTUh]; **HTP-nc** = EF Human toxicity, non-cancer [CTUh]; **SQP** = EF Land use [Pt]; **PERE** = Use of renewable primary energy excluding renewable primary energy resources used as raw materials [MJ]; **PERM** = Use of renewable primary energy resources used as raw materials [MJ]; **PERT** = Total use of renewable primary energy resources [MJ]; **PENRE** = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials [MJ]; **PENRM** = Use of non-renewable primary energy resources used as raw materials [MJ]; **PENRT** = Total use of non-renewable primary energy resources [MJ]; **PET** = Total energy [MJ]; **SM** = Use of secondary material [kg]; **RSF** = Use of renewable secondary fuels [MJ]; **NRSF** = Use of non-renewable secondary fuels [MJ]; **FW** = Use of net fresh water [m3]; **HWD** = Hazardous waste disposed [kg]; **NHWD** = Non-hazardous waste disposed [kg]; **RWD** = Radioactive waste disposed [kg]; **CRU** = Components for re-use [kg]; **MFR** = Materials for recycling [kg]; **MER** = Materials for energy recovery [kg]; **EE** = Exported energy [MJ]; **EET** = Exported energy thermic [MJ]; **EEE** = Exported energy electric [MJ]

Statement of Confidentiality

Results

Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	3.68E-1	6.16E-3	2.70E-2	4.01E-1	4.90E-3	2.39E-1	2.36E-3	-2.28E-1	4.19E-1
GWP-f	kg CO2 eq	4.25E-1	6.16E-3	2.31E-2	4.54E-1	4.90E-3	1.68E-1	2.36E-3	-2.55E-1	3.74E-1
GWP-b	kg CO2 eq	-5.73E-2	3.74E-6	1.95E-3	-5.53E-2	2.98E-6	7.10E-2	2.07E-6	2.74E-2	4.31E-2
GWP-luluc	kg CO2 eq	3.01E-4	2.18E-6	1.95E-3	2.25E-3	1.73E-6	2.79E-5	3.99E-8	-2.68E-4	2.02E-3
ODP	kg CFC11 eq	1.71E-8	1.42E-9	2.32E-9	2.08E-8	1.13E-9	4.00E-9	5.94E-11	-1.24E-8	1.36E-8
AP	mol H+ eq	1.63E-3	3.51E-5	9.32E-5	1.75E-3	2.79E-5	1.66E-4	1.42E-6	-8.17E-4	1.13E-3
EP-fw	kg P eq	8.29E-6	5.07E-8	3.59E-7	8.70E-6	4.03E-8	8.14E-7	1.84E-9	-5.28E-6	4.27E-6
EP-m	kg N eq	3.00E-4	1.25E-5	1.57E-5	3.28E-4	9.99E-6	5.01E-5	1.02E-6	-1.57E-4	2.32E-4
EP-T	mol N eq	3.30E-3	1.38E-4	1.77E-4	3.61E-3	1.10E-4	5.51E-4	5.76E-6	-1.77E-3	2.51E-3
POCP	kg NMVOC eq	1.41E-3	3.95E-5	5.50E-5	1.50E-3	3.15E-5	1.72E-4	2.16E-6	-7.20E-4	9.89E-4
ADP-mm	kg Sb eq	1.59E-5	1.59E-7	5.63E-7	1.66E-5	1.27E-7	6.50E-7	1.42E-9	-2.14E-6	1.53E-5
ADP-f	MJ	1.44E+1	9.45E-2	3.04E-1	1.48E+1	7.52E-2	5.00E-1	4.34E-3	-7.56E+0	7.77E+0
WDP	m3 depriv.	2.84E-1	2.90E-4	1.08E-1	3.92E-1	2.31E-4	9.69E-3	1.99E-5	-1.64E-1	2.38E-1
PM	disease inc.	1.64E-8	5.56E-10	9.34E-10	1.79E-8	4.42E-10	2.67E-9	2.98E-11	-8.98E-9	1.21E-8
IR	kBq U-235 eq	1.06E-2	4.13E-4	2.84E-4	1.13E-2	3.29E-4	1.55E-3	2.02E-5	-5.49E-3	7.68E-3
ETP-fw	CTUe	6.11E+0	7.67E-2	4.80E-1	6.67E+0	6.11E-2	6.24E-1	3.92E-3	-3.25E+0	4.11E+0
HTP-c	CTUh	1.34E-10	2.73E-12	2.56E-11	1.63E-10	2.17E-12	6.73E-11	1.05E-13	-7.54E-11	1.57E-10
HTP-nc	CTUh	3.19E-9	9.15E-11	5.31E-10	3.81E-9	7.28E-11	8.49E-10	2.40E-12	-1.80E-9	2.94E-9
SQP	Pt	6.65E+0	8.09E-2	5.54E-2	6.79E+0	6.43E-2	3.92E-1	1.11E-2	-9.38E+0	-2.13E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.16E+0	1.36E-3	1.05E+0	2.22E+0	1.08E-3	2.41E-2	1.71E-4	-1.62E+0	6.17E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.16E+0	1.36E-3	1.05E+0	2.22E+0	1.08E-3	2.41E-2	1.71E-4	-1.62E+0	6.17E-1
PENRE	MJ	1.54E+1	1.00E-1	3.32E-1	1.58E+1	7.98E-2	5.32E-1	4.60E-3	-8.14E+0	8.30E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.54E+1	1.00E-1	3.32E-1	1.58E+1	7.98E-2	5.32E-1	4.60E-3	-8.14E+0	8.30E+0
PET	MJ	1.66E+1	1.02E-1	1.38E+0	1.80E+1	8.09E-2	5.56E-1	4.77E-3	-9.77E+0	8.92E+0
SM	kg	0	0	0	0	0	0	0	0	0
RSF	MJ	0	0	0	0	0	0	0	0	0
NRSF	MJ	0	0	0	0	0	0	0	0	0
FW	m3	4.65E-3	1.07E-5	2.56E-3	7.22E-3	8.51E-6	3.15E-4	5.36E-6	-2.95E-3	4.60E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	2.86E-6	2.42E-7	2.96E-7	3.40E-6	1.92E-7	8.58E-7	5.21E-9	-2.50E-6	1.95E-6
NHWD	kg	2.38E-2	5.86E-3	2.88E-3	3.25E-2	4.66E-3	2.48E-2	1.91E-2	-1.00E-2	7.11E-2
RWD	kg	1.06E-5	6.43E-7	3.16E-7	1.16E-5	5.11E-7	1.98E-6	2.84E-8	-5.19E-6	8.94E-6
CRU	kg	0	0	0	0	0	0	0	0	0
MFR	kg	0	0	0	0	0	0	0	0	0
MER	kg	0	0	0	0	0	0	0	0	0
EE	MJ	0	0	0	0	0	0	0	0	0
EET	MJ	0	0	0	0	0	0	0	0	0
EEE	MJ	0	0	0	0	0	0	0	0	0

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